Project Name: _____ **Project Number:** _____

CFLHD Project Manager: _____ **A/E or Hwy Design Mgr:** _____

Originator: _____ **Date:** _____

Capitalized text represents significant changes or additions from the 50% requirements. However, all requirements are applicable.

70% DEVELOPMENT CHECKLIST **4R Projects Only** **Originator: "INITIAL" in block to indicate those elements completed, including incorporation of data, place an "I" in the block to indicate those elements that are incomplete, or write "N/A" to indicate those elements not applicable to the project. Resubmit the checklist as necessary until all applicable activities are complete.**	**ORIGINATOR (Initials)**
GENERAL	
COMMENTS FROM ALL PREVIOUS REVIEWS INCORPORATED – 50% PS&E COMMENT & RESPONSE TRACKING FORM SUBMITTED	
Documents are in compliance with established CFLHD format standards – Match agreed to format, PDDM, CADD manual, and example plans.	
Current edition of standard and detail drawings used	
Sheet numbers may be hand written	
PLANS ARE SUBSTANTIALLY COMPLETE, INCLUDING DEVELOPMENT OF ALL DETAILS AND PROJECT SPECIFIC DRAWINGS	
ALL WORK IN THE PS&E HAS BEEN REVIEWED FOR CONSTRUCTABILITY	
Insert design file path on all sheets (Place in lower left corner – outside of border)	
TITLE SHEET	
Correct Project Name & Number shown	
Length of Project shown	
County, State shown	
North Arrow & Graphic Scale shown	
Signature blocks are appropriate for the funding source	
Location Map shows	
BEGIN & END STATIONS OF PROJECT (ALL MAJOR ROADWAYS AND SITE WORK, NOT JUST MAINLINE)	
BID SCHEDULE BOUNDARIES (IF NOT SHOWN ON SITE PLAN)	
Distances to Nearest Large Destinations	
FP-XX Specification Reference shown	
Key Map of State shown with arrow to approximate project location	
Design Designations included for all major roadways (not only mainline). Including current traffic data, 20-year estimated traffic, design hourly volume, design speed, and truck percentage	
Index to Sheets	
PROVIDE AN INDEX IN SUFFICIENT DETAIL TO EASILY LOCATE ALL PLAN SHEETS. EACH SHEET OR SET OF SHEETS (I.E. FENCE LAYOUT, EROSION CONTROL PLANS, CROSS-SECTIONS) IS TO BE LISTED INDIVIDUALLY. DO NOT INDEX SHEETS IN SETS SUCH AS; STANDARDS, DETAILS, SPECIALS, ETC.	
PMIS and Drawing Number (National Park Service Projects), State Control Numbers (State Highway Projects), and applicable client agency identification numbers	
Metric cell on projects using the International System of Units (metric)	
Plans Prepared By and Prepared For:	
CFLHD's Project Manager and Lead Designers or Consultants name	

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Noticeable stamp stating percentage complete	
CONVENTIONAL PLAN SYMBOLS AND ABBREVIATIONS	
All Symbols and Abbreviations used in the plans match sheets (latest edition)	
SITE PLAN	
SECTION LINES, PROPERTY BOUNDARIES, LAND MARKS (SIGNIFICANT PLANIMETRIC FEATURES) OWNERSHIP, HORIZONTAL ALIGNMENT, MATERIAL SOURCES, STAGING AREAS, DISPOSAL SITES, WATER SOURCE, OFFSITE MITIGATION SITES, PROJECT LIMITS (BID SCHEDULES), SITE WORK, ETC. SHOWN.	
Previous CFLHD project boundaries and dates of construction, including projects under construction. Include all projects constructed during the previous 10 years.	
CONTROL SHEET	
UPDATED SURVEY CONTROL POINT LISTING – SUPPLEMENT CONTROL POINT LISTING WITH POINTS SET DURING S4 ACTIVITY	
BASIS OF COORDINATE SYSTEM STATED (STATE PLANE, LOCAL, DATUM, ETC.)	
TYPICAL SECTION(S)	
Final Typical Section shown for all roadways, including access and detour roads and includes the following:	
Crown	
Roadway Width(s) – Lane, shoulder, foreslope, ditch, and medians	
Edge of Traveled Way and edge of shoulder	
Cross-slopes conform to guidelines in PDDM	
Provide sufficient dimensions to construct the work	
Construction, Clearing, Topsoil, and Seeding Limits	
Stationing indicating application range of typical sections	
Structural Section in Conformance with Geotechnical recommendations. All structural lifts shown. Future pavement, number of pavement lifts, item descriptions, prime, tack, and seal coats shown. On all typical sections, show structural section and number of pavement lifts.	
Location of profile grade and hinge points	
Method of superelevation on curves (detail)	
Update typical sections for guardrail, paved ditches, curb, and miscellaneous typical sections necessary to define the work.	
Update typical transition details between different typical section types (address width and structural section depths)	
Curve Widening Application Table shows curve radius and corresponding widening amount	
Cut & Fill Slope Ratio Selection Table – Matches Geotechnical Recommendations, PDDM recommendations, and used to generate cross-sections	
Project Length Table – Show breakdown of project sections and total length (Do not include lengths for approach roads or parking areas). Show breakout for bridges, if any.	
Clear Zone offset shown	
Miscellaneous grading, clearing, and grubbing locations shown to address areas with clear zone deficiencies	

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Cut slope rounding and clearing limit details shown	
Existing roadway typical section (widths, surfacing, and etc.) superimposed – dashed line. This may require a separate detail if too complicated (i.e., for clarity)	
Removal and disposal of existing pavement has been evaluated for impact on earthwork quantities	
Notes – general notes providing additional information describing the work.	
SUMMARY OF QUANTITIES	
Quantities for the all bid items are computed, final pending incorporation of review comments (includes earthwork, surfacing quantities, bridges, drainage items, retaining walls, guardrail, curbs, revegetation, etc.)	
Summary also includes: Item Numbers, Item Descriptions, and Pay Units (plan & bid). MUST MATCH EXACTLY WITH THE ENGINEER'S ESTIMATE PROGRAM	
Correct Quantities Brought Forward from Tabulation Quantities Sheets	
BID ALLOWANCE MEETS RECOMMENDATIONS OF PDDM. CONTINGENCY INCORPORATED IN BID QUANTITIES, 3% TO 5% TYPICAL, A MAXIMUM OF 10%	
Plan totals match support documentation	
SHEET NUMBERS AND SHEET DESCRIPTIONS FOR CROSS REFERENCING TO INDIVIDUAL SECTIONS ARE CORRECT	
CONTRACT QUANTITY	
PLAN QUANTITY EQUALS BID QUANTITY	
"CONTRACT QUANTITY" NOTE ADDED TO REMARKS COLUMN	
MULTIPLE SCHEDULES IDENTIFIED (I.E. SCHEDULES A, ±10% UNDER FUNDING; B, AT FUNDING LEVEL; AND C, ±10% OVER FUNDING)	
MEASUREMENT INFORMATION, DESCRIPTIVE REMARKS, AND ESTIMATING VALUES FOR PAVEMENT STRUCTURE ARE SHOWN IN "REMARKS AND/OR DETERMINATION OF ESTIMATED QUANTITIES COLUMN"	
METHOD OF PAYMENT IS PROVIDED FOR ALL ITEMS OF WORK IN THE CONTRACT	
Insert spreadsheet file location(s) and/or file path (Place in lower left corner – outside of border)	
DRAINAGE SUMMARY	
Revise drainage summary to incorporate previous comments and for advancement of design.	
Item number, descriptions, and pay units match estimate	
Correlation with plan & profile and culvert cross-section sheets	
Stationing, length, diameter, end treatments, survey and staking, permanent erosion control devices, anchors, and geotextile quantities show	
EXCAVATION QUANTITIES SHOWN FOR CONSTRUCTION OF INLETS AND OUTLETS DITCHES	
MAXIMUM FILL HEIGHT SHOWN	
STRUCTURAL EXCAVATION SHOWN	
Update skew angles (nearest 5 degrees)	
Revise descriptor of drainage work, i.e., culvert stationing along approach road centerline, inlet/outlet ditch lengths, riprap types, etc. in Remarks column	
Insert spreadsheet file location(s) and/or file path (Place in lower left corner – outside of border)	

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EARTHWORK SUMMARY	
GRADING SUMMARY AND MASS HAUL DIAGRAM FINALIZED WITH TERRAIN VERIFICATION DATA INCORPORATED	
ADJUSTMENTS TO VERTICAL ALIGNMENT MADE TO ALLOW FOR DIFFERENCES IN PRELIMINARY DESIGN TERRAIN AND TERRAIN VERIFICATION DATA AND TO ACHIEVE AN OVERALL EARTHWORK BALANCE. IF AN OVERALL BALANCE CANNOT BE ACHIEVED, IDENTIFY BORROW OR WASTE NEEDS.	
ENSURE THAT FOOTPRINT REMAINS WITHIN THE RIGHT-OF-WAY.	
Earthwork summary in accordance with Earthwork Representation Guidelines.	
Grading summary is broken down into station ranges equal to approximately every Plan and Profile sheet (350/700 meters, 1000/2000 feet) and at every change in shrink/swell factor	
Revise earthwork volume adjustments listed in the summary to reflect the final earthwork (i.e. shrink/swell, topsoil stripping, subexcavation, borrow, waste, approach roads, conserved materials, miscellaneous excavation and embankment, and retaining wall backfill and excavation).	
EXCAVATION AND EMBANKMENT FOR TEMPORARY TRAFFIC CONTROL WIDENING INCLUDED IN QUANTITIES (DETOURS).	
EARTHWORK QUANTITIES FOR WIDENINGS AT GUARDRAIL, BRIDGE APPROACHES, CULVERT CATCH BASINS, ETC. INCLUDED.	
SHRINK/SWELL FACTORS, IN ACCORDANCE WITH GEOTECH. RECOMMENDATIONS.	
UNSUITABLE SOILS AND EXCESS EXCAVATION ACCOUNTED FOR.	
RETAINING WALL EXCAVATION AND BACKFILL ACCOUNTED FOR.	
BALANCE POINTS AND INTERMEDIATE MASS ORDINATE POINTS SHOWN	
CROSS-HAUL OF EXCAVATION SHOWN, IF APPLICABLE	
Definitions and notes to explain assumptions made.	
Mass Haul Diagram graph	
CORRESPONDS WITH DATA IN EARTHWORK GRADING SUMMARY	
Insert spreadsheet file location(s) and/or file path (Place in lower left corner – outside of border)	
TABULATION OF QUANTITIES	
TABULATION OF ALL QUANTITIES WITH THE EXCEPTION OF THE FEW ITEMS OF WORK THAT ARE ESTIMATED (I.E. DUST CONTROL, LUMP SUM, EQUIPMENT HOURS) AND DO NOT REQUIRE TABULATION	
CORRECT ITEM NUMBER, DESCRIPTION, PAY UNITS, AND BID SCHEDULE	
QUANTITIES AND LOCATIONS CORRELATE WITH WORK DESCRIPTIONS ON PLAN & PROFILE SHEETS OR WORK IN INDIVIDUAL SECTIONS AS APPROPRIATE	
Tables include the following:	
Stationing, location (left, right), item number, description, pay units, quantities with totals, and remarks as appropriate	
TABLES SETUP FOR USE OF MULTIPLE BID SCHEDULES	
HIGHWAY DESIGN STANDARDS	
The following standards were revised and optimized at the 50% design stage to coordinate all competing design elements: design speed, lane width, shoulder width, bridge width, structural capacity, grade, stopping sight distance, cross slope, superelevation, horizontal and vertical clearances, clear zone, roadside barriers, end treatments, and curve widenings. Revisions to those design elements have been updated to reflect changes in the design.	

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Roadside barriers, end treatment, and clear zone determined according to AASHTO Roadside Design Guide. Template adjusted to accommodate barrier placement	
PEDESTRIAN AND BICYCLE SAFETY DESIGN IS OPTIMIZED AND CONSIDERED FINAL (PROPER SEPARATION BETWEEN TRAVEL WAY AND BICYCLE/PEDESTRIAN FACILITIES, PROPER WIDTH OF FACILITY, PROPER VERTICAL CLEARANCE, ETC.)	
PLAN AND PROFILE	
Plan	
PLAN UPDATED TO INCLUDE ALL COMMENTS AND OBSERVATIONS FROM THE 50% FIELD REVIEW	
Plans are annotated with appropriate notes describing construction considerations, culvert information, and locations of paved ditches, riprap ditches, guardrail, subexcavation, right-of-way, and etc.	
ITEMS TO BE SALVAGED ARE ANNOTATED WITH APPROPRIATE NOTES	
Information shown is clear and concise. Symbology is not cluttered.	
Beginning and end of proposed construction shown	
Identified and referenced to profile with arrow	
Stations and Coordinates of terminus points	
North Arrow shown on each sheet	
Township, Range, and Section No.'s shown	
Final property boundaries and updated ownership shown, including names	
FINAL HORIZONTAL ALIGNMENT – ALL ISSUES THAT WERE RAISED AND COMMENTS RECEIVED HAVE BEEN ADDRESSED.	
Curve Data – curve name, PI station, delta(s), radius, tangent length, curve length, and superelevation shown for each curve. Include spiral data as appropriate	
Bearings/Azimuths are shown along tangents	
Edge of Existing Roadway shown	
Limits of Disturbance shown (includes, Cut & Fill Slope Stake, Rounding, & Clearing) and within Right-of-Way or Easements	
FINAL RIGHT-OF-WAY, INCLUDING EASEMENTS (TEMPORARY AND PERMANENT) PROPOSED FOR CONSTRUCTION OF DRIVEWAYS, DRAINAGE STRUCTURE, OUTLET OR INLET DITCHES, TEMPORARY DIVERSION CHANNELS, AND SEDIMENT BASINS SHOWN	
Control Points shown– Point number and symbology (elevation not shown)	
New and Existing Culverts shown	
UPDATE PROPOSED CULVERT LENGTH LEFT AND RIGHT OF CENTERLINE, SKEW ANGLES, AND END TREATMENT SYMBOLS.	
HISTORIC, CULTURAL, AND NATURAL RESOURCES THAT REQUIRE PROTECTION OR SPECIAL TREATMENT ARE DELINEATED WITH THE APPROPRIATE DEVICES (I.E. TEMPORARY CONSTRUCTION FENCE) FOR PROTECTION OF AREAS DURING CONSTRUCTION. THE BOUNDARIES AND ALL NOTES PREVIOUSLY SHOWN, INDICATING THE RESOURCE TYPE ARE TO BE REMOVED	
NO HAZARDS ARE WITHIN THE CLEAR ZONE, OR ARE IDENTIFIED AS EXCEPTIONS	
Planimetric features shown	
Existing Creeks and Rivers w/Correct Names	
Symbols used match standard symbol sheet. New symbols are shown in a legend	
CROSS REFERENCES GIVEN FOR LOCATION OF DETAILS (I.E., DRAWING NUMBERS)	
Pullout/Parking Area	

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SHOW SHAPE, INCLUDING LIMITS OF DISTURBANCE – USE SPECIAL DRAWING SHEETS TO SHOW DETAILS	
FINALIZE SPECIAL DRAWING SHEETS SHOWING DETAILS	
Road Approaches	
Final horizontal alignment for public intersection roads, with appropriate type and class and limits of disturbance	
Finalize location of minor approach roads. Standard roadway connection symbol with type, class, mainline stationing, and design grade shown for minor approach roads	
MISCELLANEOUS PROJECT SITES	
CENTERLINE, LIMITS OF DISTURBANCE, STATION REFERENCE TO MAINLINE STATIONING	
FINAL GUARDRAIL LOCATIONS SHOWN. REVISIONS TO GUARDRAIL LOCATIONS AFTER THIS REVIEW SHOULD AMOUNT TO MINOR ADJUSTMENTS.	
FINAL RETAINING WALL LOCATIONS. REVISIONS TO RETAINING WALLS AFTER THIS REVIEW SHOULD AMOUNT TO MINOR ADJUSTMENTS.	
Fences to be constructed or relocated (shown on plan & profile sheets only when work is clear and not cluttered). Use separate detail sheets when symbols, notes, stations, etc. is not clear or cluttered	
Fences and Gates – Show Begin/End Stations, tie with existing fences, offsets from centerline, cattleguards, stationing at changes of direction, etc.	
Fence symbology show cattleguards, fence, & gates	
PAVEMENT CONNECTION SHOWN AT BEGINNING AND END OF PROJECT	
EXISTING UTILITIES (POWER, PHONE, & BUILDINGS) SHOWN ON PLAN & PROFILE SHEETS ONLY WHEN WORK IS CLEAR AND NOT CLUTTERED). USE SEPARATE DETAIL SHEETS WHEN SYMBOLS, NOTES, STATIONS, ETC. IS NOT CLEAR OR CLUTTERED.	
Index contour lines show readable elevations.	
STORM DRAINS, SPECIAL DITCHES, UNDERDRAIN, ETC. IF THE PLAN VIEW IS THE ONLY DETAIL WHERE THE LOCATION RELATIVE TO CENTERLINE IS SHOWN.	
DITCH LINING NOTE OR SYMBOLOGY SHOWN FOR ALL DITCHES OTHER THAN GRADED DITCHES (MAY BE SHOWN ON EROSION CONTROL SHEETS)	
Roadway obliteration symbol for all obliterations (may be shown on erosion control or other appropriate sheet, if sheet is cluttered)	
Place the note: "The alignment and grade as shown hereon are subject to adjustment"	
Profile	
PROFILE IS FINALIZED. PROFILE HAS BEEN UPDATED AND OPTIMIZED AFTER INCLUSION OF TERRAIN VERIFICATION DATA AND INCLUSION OF ALL COMMENTS AND OBSERVATIONS FROM THE 50% FIELD REVIEW. VERTICAL ALIGNMENT ADJUSTED TO ALLOW FOR DEVIATIONS ENCOUNTERED DURING INCORPORATION OF REFERENCE HUBBING OR TOPOGRAPHY VERIFICATION DATA.	
ADJUSTMENT OF VERTICAL ALIGNMENT BEST FITS TOPOGRAPHY, MINIMIZES ENVIRONMENTAL AND VISUAL IMPACTS, AND MINIMIZES OVERALL PROJECT CONSTRUCTION COSTS	
Existing ground line shown and labeled	
Proposed profile grade shown and labeled – maximum gradient not exceeded.	
Length of Vertical Curves, K-Values, and Stopping Sight Distance shown	
Grid elevations	
Profile grade agrees with Typical Section grade point location	
VPI's Stations and Elevations	
Beginning and End of Work, Stations and Elevations Shown	

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CULVERT LOCATIONS AGREE WITH PLAN PORTION OF SHEET, DRAINAGE SUMMARY, AND CULVERT CROSS-SECTIONS	
SYMBOL SIZE AND LOCATION REVISED FOR FINAL DESIGN. CORRESPONDING TEXT REVISED TO REFLECT FINAL DESIGN.	
FLOWLINE OF CULVERT SYMBOL IS UPDATED TO CORRESPOND WITH THE DESIGNED CENTERLINE CROSSING ELEVATION	
Update text showing station, culvert diameter and length, number of barrels, end treatment, and permanent erosion protection	
Correct symbol and symbol scale is used	
Hydraulic information for large culverts, 1200mm (48") and above (design flow, drainage basin area, etc.)	
UNDERDRAIN(S) ELEVATIONS ADJUSTED IN ACTUAL PROFILE LOCATION TO REFLECT CHANGES TO VERTICAL ALIGNMENT (NOTE LOCATION OF UNDERDRAIN, I.E. UNDER FLOWLINE OF DITCH). SHOW POINTS OF DISCHARGE AT CORRECT ELEVATION.	
LOCATION BARS SHOWN FOR THE FOLLOWING:	
GUARDRAIL LOCATIONS AND END TREATMENTS	
RETAINING WALLS	
CURBS	
DITCH GRADES SHOWN FOR SPECIAL DITCHES	
BEGIN/END STATIONS AND GRADES	
MINIMUM DITCH GRADE EQUALS OR EXCEEDS 0.5%, 1.0% IS PREFERRED	
Update retaining wall face outline and total wall face area quantity	
Update structure layout shape	
Update low water crossings	
HYDRAULICS	
HYDRAULICS REPORT FINALIZED – SEE 50% POST-SUBMITTAL SECTION FOR REPORT REQUIREMENTS	
INCORPORATE ALL HYDRAULICS RECOMMENDATIONS	
ALL ROADWAY SAGS CHECKED, WITH NO POTENTIAL PONDING PROBLEMS. DROP INLETS IN CURB SECTIONS SHOWN AT EXACT LOCATION IN SAGS.	
ALL LOW POINTS CONTAIN INLETS OR MEANS OF DRAINING	
CULVERT PIPES USED IN CONJUNCTION WITH DROP INLETS NOT OVERSIZED, AS INLET GRATE CAPACITY CONTROLS.	
PROPER INLET GRATE TYPE USED TAKING CAPACITY, BICYCLES, TRUCK LOADINGS, GRADES, GUTTER WIDTHS, AND CLIENT CONCERNS INTO ACCOUNT.	
PARKING AREA INLETS DESIGNED WITH CURB OPENINGS TO HANDLE DEBRIS.	
MAINTENANCE OF FLOW OF ALL LIVE STREAMS CONSIDERED FOR INSTALLATION OF NEW DRAINAGE STRUCTURES.	
CORRECT DITCH GRADES USED IN DITCH CAPACITY AND STABILITY COMPUTATIONS, USING THE STEEPEST GRADE IN A RUN FOR STABILITY AND THE FLATTEST GRADE FOR CAPACITY. MISCELLANEOUS DITCHES, SUCH AS FURROW DITCHES, PROPERLY SIZED AND STABLE.	
SPECIAL DITCH GRADES ARE DEVELOPED WHERE APPROPRIATE (I.E. FLAT GRADES, TRANSITION INTO AND OUT OF APPROACH ROAD CULVERTS)	
TYPE OF PERMANENT EROSION CONTROL SPECIFIED IN DITCHES PROPER FOR AESTHETICS, LOCATION, MAINTENANCE, AND CLIENT CONCERNS.	
CLEANING OF EXISTING CULVERT OUTLET DITCHES CONSIDERED AND SHOWN.	

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BRIDGE SCOUR COUNTERMEASURES, SUCH AS RIPRAP, PROVIDED	
UPDATE DRAINAGE SUMMARY, PLAN AND PROFILE SHEETS, AND CULVERT CROSS-SECTIONS	
CULVERT GAGE THICKNESS CORRECT FOR COVER	
Revise and update standard, detail, and/or special drainage plan sheets	
FISH PASSAGE CULVERTS	
LENGTH CORRECT - CHECK SKEWED CROSS SECTIONS	
LENGTH MATCHES PERMIT	
DRAWING(S) AGREE WITH PERMIT APPLICATION/PERMIT	
UPDATE RIPRAP AND INLET/OUTLET DETAILS	
OUTLET VELOCITIES CHECKED, AND PROPER TYPE, CLASS, AND SIZE OF ENERGY DISSIPATORS PROPOSED.	
DIMENSIONS, CLASS, AND GEOTEXTILE TYPES SHOWN	
HEADWALLS	
REINFORCEMENT SHOWN	
VERIFY CONSTRUCTABILITY ON SKEWED INSTALLATIONS – HEADWALLS ARE TYPICALLY DESIGNED PARALLEL TO THE ROADWAY SHOULDER	
PAVEMENTS	
V2 ACTIVITY – PAVEMENT REPORT *This activity began during the 50% activity and will conclude with the completion of the final pavements report after review of the 70% PS&E*	
CURBS	
CURB TYPE (MOUNTABLE VS. BARRIER) APPROPRIATE FOR USE. PROPER USE OF CURB IN CONJUNCTION WITH GUARDRAIL.	
PROPER TRANSITION IS PROVIDED AT CURB ENDS, SPILLWAYS, AND GUARDRAIL TERMINALS	
PROPER OFFSET PROVIDED BETWEEN TRAVEL LANE AND RAISED ISLANDS.	
PROPER MEDIAN OPENING WIDTHS PROVIDED	
SUFFICIENT DETAILS AND DIMENSIONS ARE PROVIDED TO CONSTRUCT THE WORK	
PROPER SLOPE OF GUTTER USED FOR IN-SLOPING OR OUT-SLOPING CURB AND GUTTER	
GUARDRAIL	
Terminal Section chosen is approved by maintaining agency	
Shy distance and terminal section widening included in template	
Barrier selection considered distance to fixed objects and barrier deflection	
PROPER BARRIER CONNECTION TO STRUCTURES	
Roadside barriers designed according to AASHTO Roadside Design Guide and NCHRP 350, including proper flare rates and offsets to terminal ends	
TEMPORARY TRAFFIC CONTROL	
Updated temporary traffic control design, including work zones, detours, construction phasing, pavement markings, signing, temp. signals, and channelizing devices.	
Hauling and detour routes approved by client and maintaining agency	

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Layout details for detours updated, including slopes, drainage structures, etc.	
ROAD CLOSURES NECESSARY TO ALLOW CONSTRUCTION OPERATIONS ARE APPROVED BY CLIENT AGENCY AND INCORPORATED.	
TRAFFIC CONTROL PLAN REFLECTS PRACTICAL AND EFFICIENT METHOD TO MANAGE TRAFFIC THROUGH WORK ZONE	
THE TRAFFIC CONTROL PLAN IS OPTIMIZED TO PROVIDE THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC WHILE ACCOMMODATING THE CONTRACTOR'S OPERATIONS	
CONSTRUCTION ACCESS TO STRUCTURES UPDATED	
ALL ACCESS POINTS ALONG THE DETOUR PROPERLY SIGNED. ROUTE NUMBER OR ROADWAY NAME CARRIED ALONG WITH DETOUR SIGNING, IF NEEDED TO AVOID CONFUSION.	
HIGH-LEVEL WARNING DEVICES (FLAGS AND/OR WARNING LIGHTS) PROVIDED FOR ADVANCE DETOUR SIGNING OR OTHER SPECIAL CONSTRUCTION CIRCUMSTANCES.	
Speed through construction zone coordinated with client and regulatory agency, and reduced as necessary.	
EXISTING SIGNS WITHIN AND NEAR CONSTRUCTION ZONE CONSIDERED FOR CONFLICTS WITH THE TRAFFIC CONTROL PLAN, AND COVERED OR REMOVED AS NECESSARY.	
PEDESTRIAN AND BICYCLE SIGNING AND TRAFFIC CONTROL DEVICES CONSIDERED.	
APPLICATION OF TEMPORARY CONCRETE BARRIERS VS. A SERIES OF DRUMS OR CONES CORRECTLY USED	
DRUM AND CONE TAPER LENGTHS AND SPACING CHECKED.	
TEMPORARY CONCRETE BARRIERS DESIGNED WITH PROPER FLARE RATES AND OFFSETS TO TERMINAL ENDS.	
TEMPORARY CRASH CUSHIONS USED WHERE PROPER OFFSETS CANNOT BE ACHIEVED. CRASH CUSHION TYPE APPROPRIATE FOR INSTALLATION (SIDE IMPACTS).	
AREA BETWEEN TRAVEL LANES AND TEMPORARY CONCRETE BARRIER RELATIVELY FLAT (APPROXIMATELY 10:1).	
SUFFICIENT DISTANCE PROVIDED BETWEEN TEMPORARY CONCRETE BARRIERS AND WORK AREA FOR CONSTRUCTION OPERATIONS AND EQUIPMENT TO BE ACCOMPLISHED.	
Intermediate openings provided in temporary concrete barriers for access to residences, businesses, or for construction equipment.	
SUFFICIENT DISTANCE PROVIDED BEHIND BARRIERS TO TAKE DEFLECTION INTO ACCOUNT. BARRIERS BOLTED DOWN TO BRIDGE DECK OR PAVEMENT IF REQUIRED TO PROTECT DROP-OFFS, FALSEWORK, ETC.	
FOR BRIDGE DECK REMOVAL, BARRIER LOCATION IS DETAILED. INCLUDING CONNECTION DETAILS	
CLEAR IN PLANS THAT TEMPORARY EDGE STRIPING IS TO BE PLACED ADJACENT TO TEMPORARY CONCRETE BARRIERS (CONSIDER 6" OFFSET FOR DEBRIS NEXT TO BARRIER).	
TEMPORARY STRIPING TYPE APPROPRIATE FOR CONSTRUCTION SEASON WEATHER CONDITIONS.	
DRAINAGE CONSIDERED FOR ALL TRAFFIC CONTROL STAGES.	
Temporary pavement structure coordinated with Geotech, taking both traveling public and construction vehicles into account.	
MINIMUM LANE WIDTHS PROVIDED FOR VEHICLE TYPES USING ROADWAY. RESTRICTIONS TO LANE WIDTHS SUCH AS TRAFFIC CONTROL DEVICES, STRIPING, BARRIERS, ETC. TAKEN INTO CONSIDERATION. LANE WIDTHS AGREE WITH THE SCRS.	
PROVISIONS FOR SWITCHING TRAFFIC CONTROL DEVICES FROM ONE STAGE TO THE NEXT. CONSIDERATION GIVEN TO ACCOMPLISHING THIS UNDER TRAFFIC, AND DURING THE TIME FRAMES GIVEN.	
Sufficient staging area space for the Contractor to accomplish necessary operations.	
USE OF TEMPORARY SIGNALS ARE INCLUDED, IF APPROPRIATE (I.E. RETAINING WALL CONSTRUCTION)	
QUANTITIES FOR MULTIPLE SET-UPS AND STAGES ACCOUNTED FOR (SIGNING, DEVICES, STRIPING, ETC.).	
Temporary traffic control details and project specific temporary traffic control drawings include:	
Project termini signing	

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Part width construction signing	
Typical sign locations	
SIGN DESIGNATIONS CONFORM TO MUTCD	
APPROPRIATE REFLECTIVE SHEETING TYPE(S) IDENTIFIED	
ALL SIGN SYMBOLS DEFINED	
Notes	
ALL CONSTRUCTION WARNING SIGNS BLACK AND ORANGE	
TEMPORARY STRIPPING PER CFLHD TEMPORARY TRAFFIC CONTROL DETAILS	
TRAFFIC CONTROL PLAN PER MUTCD AND CFLHD STANDARD DRAWINGS AND SPECIFICATIONS	
PERMANENT SIGNING	
SIGNING PLAN, INCLUDING STANDARDS, DETAILS, AND SPECIALS UPDATED	
INSTALLATION DETAILS	
ALL FINAL SIGN LOCATIONS SHOWN, PHYSICALLY POSSIBLE TO PLACE PERMANENT SIGNS WHERE INDICATED.	
BREAK-AWAY POSTS SPECIFIED WHEN PLACED WITHIN CLEAR ZONE	
PAINTING OF POSTS AND BACK OF SIGNS COORDINATED WITH CLIENT	
PROPER MUTCD NUMBER	
ALL SIGN SYMBOLS DEFINED	
PLACEMENT (HORIZONTAL AND VERTICAL) DETAIL	
PERMANENT PAVEMENT MARKINGS	
PAVEMENT MARKING PLAN REVISED AND FINALIZED, INCLUDING STANDARDS, DETAILS, AND SPECIALS.	
FINAL LOCATIONS SHOWN AND LAYOUT PLAN FINALIZED -MATCHES DESIGN DOCUMENTATION	
MARKING DETAIL - STRIPING SPACING	
WIDTH AND SPACING DETAIL	
PROVIDE DETAILS AND SUFFICIENT INFORMATION TO LAYOUT ALL PAVEMENT MARKINGS (I.E. INTERSECTIONS)	
IT IS CLEAR WHERE THE CENTERLINE AND EDGE STRIPING IS TO BE PLACED. THE LOCATION TAKES INTO ACCOUNT PAVEMENT WIDENING. SUFFICIENT INFORMATION IS PROVIDED TO LOCATE THE STRIPING AT THE DESIRED LOCATION. PER CFLHD DETAILS.	
ROAD APPROACHES	
VERTICAL ALIGNMENT REVISED AND FINALIZED FOR PUBLIC INTERSECTION APPROACH ROADS. HORIZONTAL ALIGNMENT FINALIZED PREVIOUSLY.	
Finalize minor approach roads. Standard roadway connection symbol with type, class, mainline stationing, and design grade shown for minor approach roads	
Approach road profiles and radiuses designed according to the standard approach road details.	
Intersections at 90°, where possible.	
Steep grades minimized and a sufficient landing provided at roadway edge. Landings provided for grades steeper than 3% where practical.	

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CULVERTS ACROSS ROAD APPROACHES HAVE BEEN DESIGNED AND SPECIAL DITCH PROFILE GRADES HAVE BEEN INCORPORATED. CONSTRUCTION LIMITS AND CROSS-SECTIONS REFLECT ADJUSTMENTS MADE FOR DRAINAGE AND AESTHETICS OF DRAINAGE FEATURES.	
PROPER TURNING RADII AND WIDTHS FOR TURNING ROADWAYS USED AT INTERSECTIONS. CURB RETURN RADII IS LARGE ENOUGH FOR THE TURNING VEHICLE.	
ALL ISLANDS MEET GUIDELINES; OFFSET; OPENING WIDTH; RADII; AND PEDESTRIAN AND BICYCLE CONSIDERATION	
CROSS SLOPES WITHIN THE CURB RETURN TRIANGLE ARE ADEQUATE	
THE INTERSECTION SIGHT DISTANCE HAS BEEN CHECKED AND DOCUMENTED FOR ALL APPROACHES. WHEN NECESSARY ADJUST THE ALIGNMENT (SKEW) AND GRADE	
THE SIGHT TRIANGLES AT ALL INTERSECTIONS ARE WITHIN THE RIGHT-OF-WAY, DELINEATED CLEARING LIMITS, AND ADEQUATE FOR STOPPING SIGHT DISTANCE	
Typical Section(s) shown	
Limits of disturbance shown for all approach roads	
PARKING AREAS	
LAYOUT DETAILS FOR PARKING AREA(S) ARE UPDATED TO INCLUDE TERRAIN VERIFICATION	
DETAILS - STATIONING, WIDTH (SUFFICIENT INFORMATION IS PROVIDED TO CONSTRUCT THE WORK)	
SEMI-FINAL CURB AND EDGE OF PAVEMENT GEOMETRY PROVIDED – COORDINATES AND ELEVATIONS OF POINTS NECESSARY FOR LAYOUT (CONTROL POINT LAYOUT SHEET)	
GEOMETRY IS DEVELOPED FROM THE TOP/BACK LOCATION OF THE CURB. GEOMETRY TAKES INTO ACCOUNT ELEVATION CHANGES IN GUTTER PAN	
DRAINAGE OF PARKING AREAS EVALUATED WITH NO POTENTIAL PONDING PROBLEMS	
REMOVAL OF SEDIMENT AND CONTAMINANTS FROM DISCHARGE WATER COORDINATED WITH CLIENT	
AMERICANS WITH DISABILITIES ACT (ADA)	
HANDICAP SPACES AND WHEELCHAIR RAMPS PROVIDED AND CORRECT PERCENTAGE OF TOTAL LOT USED. WHEELCHAIR RAMPS PROVIDED WHERE THE ACCESSIBLE ROUTE CROSSES A CURB	
PROPER NUMBER OF VAN ACCESSIBLE SPACES	
PROPER WIDTH OF HANDICAP SPACES	
IS THERE AN ACCESSIBLE ROUTE FROM ALL HANDICAP PARKING SPACES TO THE ACCESS ROUTE?	
HANDICAP SPACES ARE ON LEVEL GROUND (LESS THAN 2% IN ANY DIRECTION)	
CURB RAMPS HAVE DETECTABLE WARNINGS	
ALL RAMPS ARE A MAXIMUM OF 1:12 SLOPES	
RAMPS PERPENDICULAR TO CURB	
PROPER SURFACE FOR ALL RAMPS	
WALKWAYS DO NOT EXCEED ALLOWABLE SLOPES	
HANDRAILS AND RAILING ARE PROVIDED ACCORDING TO ADA GUIDELINES	
SAFETY GRATES ARE PROVIDED IN LOCATIONS WHERE ACCESSIBLE ROUTS CROSS DROP INLETS, TRENCH DRAINS, ETC.	
FENCES AND GATES	
TYPICAL DETAILS SHOWN FOR EACH FENCE AND GATE TYPE IN CONTRACT	
SPACING BETWEEN WIRES (VERTICAL) MEET LANDOWNER, OWNER AGENCY, AND/OR REGULATORY AGENCY NEEDS	

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WIRE TYPES AND GAGES ARE DETERMINED BASED ON NEEDS OF LANDOWNER, OWNER AGENCY, AND/OR REGULATORY AGENCY	
GATE WIDTHS AT APPROACH ROADS ARE APPROPRIATE FOR THE ROADWAY WIDTH AND OWNER NEEDS	
CONNECTIONS TO EXISTING FENCES AND GATES ARE COORDINATED WITH THE FINAL PROPOSED FENCING LAYOUT	
FENCE AND GATE LAYOUT SHEETS ARE USED WHEN SYMBOLS, NOTES, STATIONS, ETC. IS NOT CLEAR OR CLUTTERED	
SHOW SUFFICIENT INFORMATION TO PLACE AND CONSTRUCT THE FENCES AND GATES IN THE REQUIRED LOCATIONS (I.E. BEGIN/END STATIONS, TIE WITH EXISTING FENCES, OFFSETS FROM CENTERLINE, CATTLEGUARDS, STATIONING AT CHANGES OF DIRECTION)	
EROSION CONTROL	
EROSION CONTROL PLAN SHEETS SHOWING TEMPORARY AND PERMANENT EROSION CONTROL DEVICES ARE UPDATED	
CFLHD EROSION CONTROL DETAIL SHEETS SHOWING THE TYPICAL MATERIALS, INSTALLATION, AND DIMENSIONS OF THE EROSION CONTROL DEVICES PROPOSED ARE INCORPORATED. ADDITIONAL EROSION CONTROL DETAIL SHEETS ARE DEVELOPED	
Sediment basins are designed, including computations on the size requirements for the basins.	
EROSION CONTROL RECOMMENDATIONS INCORPORATED, INCLUDING NPDES GENERAL PERMIT REQUIREMENTS FOR CONSTRUCTION PROJECTS.	
Effectiveness, use of best management practices	
STATE AND LOCAL REQUIREMENTS FOR EROSION CONTROL CONSIDERED	
ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHOWN ON PLAN LAYOUT SHEETS	
RIPRAP WATERWAYS ARE DESIGNED AS APPROPRIATE AT ENDS OF DITCHES, DRAINAGE SWALES IN CUTS, STEEP DITCH GRADIENTS > 6%	
EROSION CONTROL DETAILS AND/OR SPECIALS REVISED	
STATIONING, ITEM, AND LOCATION MATCH TABULATION OF QUANTITIES	
ENVIRONMENT	
PERMITS ARE COMPATIBLE WITH DESIGN	
ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS IDENTIFIED IN THE ENVIRONMENTAL DOCUMENT ARE INCORPORATED INTO THE DESIGN	
Review comments from previous reviews are incorporated	
MAJOR STRUCTURES	
PRELIMINARY MAJOR STRUCTURE DESIGN COMPLETED	
Layout sheets for large culverts (i.e. require headwall, special details) are developed in detail	
UPDATED RETAINING WALL LAYOUT SHEETS	
SUPPLEMENTAL GROUND SURVEYS COMPLETED	
Temporary shoring needs to accommodate traffic and to facilitate construction are finalized	
All recommendations relating to major structures from the Geotechnical and/or Hydraulics Report(s) are incorporated	
GRADES MATCH PLAN & PROFILE SHEETS	
CONCRETE STRENGTH CONSISTENT WITH SPECIFICATIONS	

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CONTRACT QUANTITIES SHOWN AS APPROPRIATE	
CONCRETE AND REINFORCEMENT QUANTITIES SHOWN	
RIPRAP DETAILS	
CLASS OF RIPRAP	
DIMENSIONS TO BE PLACED	
GEOTEXTILES	
CONSTRUCTION ACCESS TO WORK SITE SHOWN AND IMPACTS COORDINATED WITH CLIENT AGENCIES.	
Bridge	
B3-3 ACTIVITY – STRUCTURAL DESIGN AND CHECK (CONT'D). ACTIVITIES STARTED AFTER THE 50% SUBMITTAL REVIEW.	
B3-4 ACTIVITY– ATTEND PLAN-IN-HAND FIELD REVIEW AND PREPARE SUMMARY OF COMMENTS AND RESOLUTION	
CLIENT SUPPLIED DRAWINGS	
WORK SHOWN IS CONSISTENT WITH OTHER DRAWINGS	
STATIONS	
DESCRIPTIONS	
STATE HIGHWAY DRAWINGS MODIFIED TO MATCH CFLHD SPECIFICATIONS AND DRAWINGS	
REFERENCES TO SPECIFICATIONS CHANGED TO REFLECT FP SECTIONS	
SYMBOLS AND ABBREVIATIONS CHANGED OR ADDED TO SYMBOL AND ABBREVIATIONS SHEET TO MATCH CFLHD DRAWINGS	
UTILITIES	
U2 activity – Utility Accommodation, Relocation and Certification Develop a utility accommodation/relocation plan. *This activity will continue through the 95% design development phase*	
ADJUSTMENT PLAN OBTAINED FROM UTILITY COMPANIES	
SPECIAL DETAILS OR SCRS RELATED TO UTILITY ADJUSTMENT WORK IS FINALIZED.	
LOCATIONS OF ALL KNOWN EXISTING AND PROPOSED UTILITIES SHOWN ON PLAN VIEW SHEET	
LOCATIONS OF EXISTING OR PROPOSED UTILITIES SHOWN ON CULVERT CROSS-SECTIONS.	
FIELD VERIFICATION OF EXISTING UTILITIES BY CONTRACTOR SPELLED-OUT IN SCRS.	
ABOVE GROUND APPURTENANCES CONSIDERED FOR CONSTRUCTION CONFLICTS (TEMPORARY WIDENING, EQUIPMENT REQUIREMENTS SUCH AS CLEAR AREA FOR SWINGING CRANES, ETC.)	
PERMANENT REVEGATATION	
PERMANENT REVEGATATION PLAN AND LANDSCAPING REQUIREMENTS INCLUDED.	
SEED MIXTURE FINALIZED	
PLANTING STOCK FINALIZED	
TREES (EXISTING OR PROPOSED) NOT ENCROACHING INTO CLEAR ZONE WHEN MATURE.	
TREES AND SHRUBS (EXISTING OR PROPOSED) NOT REDUCING SIGHT DISTANCE AT INTERSECTIONS WHEN MATURE.	
LANDSCAPING NOT REDUCING VISIBILITY OF SIGNS.	

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STANDARD DRAWINGS	
Applicable FLH Standard Drawings included, current version	
Applicable CFLHD Detail Drawings included, current version	
MISCELLANEOUS DESIGN ELEMENTS	
ALL AREAS OF DISTURBANCE OUTSIDE OF THE SLOPE STAKE LIMITS INCLUDED IN THE FINAL CONSTRUCTION LIMITS (I.E. RIPRAP APRONS, SUBEXCAVATION AREAS, WORK AREAS, CULVERT RUNDOWNS, WALL CONSTRUCTION, ETC.)	
RIGHT-OF-WAY LINES ARE SHOWN THROUGHOUT THE PLANS WHERE APPLICABLE.	
All details and specials not discussed in other sections are revised to reflect the semi-final design. These may include sidewalks, obliteration, benching, curbs, drop inlets, and etc.	
PROPOSED MITIGATION FOR DESIGN EXCEPTIONS, AS NOTED ON THE HIGHWAY DESIGN STANDARDS FORM, SHOWN ON PLANS.	
IT IS CLEAR WHERE THE PAVEMENT CENTERLINE JOINT IS TO BE PLACED. THE LOCATION TAKES INTO ACCOUNT PAVEMENT WIDENING. IT TYPICALLY WILL NOT BE ON THE DESIGNED CENTERLINE. SUFFICIENT INFORMATION IS PROVIDED TO LOCATE THE PAVEMENT SEAM AT THE DESIRED LOCATION. PER CFLHD DETAILS.	
ROADWAY CROSS-SECTIONS	
Cut and fill slopes revised in accordance with the Geotechnical Report, adjusted to best fit the topography, minimize environmental and visual impacts, and minimize overall construction costs	
Final cross-sections include intermediate stations for all changes in subgrade width (i.e. guardrail terminal locations, culvert inlets, curve widening, pullouts, etc.). Cross-sections are provided at the appropriate interval (i.e. 20-meter (50 feet) typical. Locate changes in template width on 10 or 20 meter (25' or 50') stations where possible. Provide cross-sections on 10 meter (25') intervals through retaining walls and on centerline curves with a radius of 75 meters (250') or less. Cross-sections reflect the stations necessary to construct the project.	
REFERENCE HUB/TERRAIN VERIFICATION DATA INCORPORATED	
REFERENCE HUB SYMBOL (IF REFERENCE HUBS ARE ESTABLISHED)	
Ditch widening at culvert inlets incorporated, including width transitions	
Widen Ditches at end of cuts – transition from cut to fill (i.e. flare ditch and flatten cutslope) incorporated. See section 9.4 of the PDDM.	
Cross-sections match Typical Section and Cut & Fill Slope Ratio selection table	
Existing ground shown	
Proposed cross-section showing all structural section layers	
Slope ratios for all slopes outside of subgrade shoulder shown	
Superelevation rates (m/m or ft/ft) between subgrade shoulders shown	
Station, design grade, subgrade, and original ground elevations shown	
Centerline symbol shown	
Horizontal location of existing and proposed Right-of-Way limits	
Horizontal and vertical location of utilities	
Guardrail, retaining walls, and paved ditches symbols/shapes	
Grid elevations and offset distances	

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CULVERT CROSS-SECTIONS	
Cross-sections match Typical Section and Cut & Fill Slope Ratio selection table	
DITCH WIDENING AT CULVERT INLETS INCORPORATED	
CULVERT IS DRAWN TO SHOW CULVERT, END TREATMENTS, ELBOWS, DROP INLETS, INLET AND OUTLET PROTECTION, ETC.	
Culverts station and skew agree with plan and profile sheet and drainage summary	
Culvert is located to match the natural stream gradient and proper cover is achieved	
Text shows station, culvert diameter and length, number of barrels, culvert slope	
Culvert is drawn proportional to grid	
Existing ground	
Proposed cross-section (drawn along alignment of culvert)	
Slope ratios for all slopes outside of subgrade shoulder	
Superelevation rates (m/m or ft/ft) between subgrade shoulders	
Horizontal location of existing and proposed Right-of-Way limits shown	
Horizontal location of utilities shown	
Guardrail symbol shown	
Retaining wall shown	
Grid elevations and offset distances	
SPECIFICATIONS	
REVISE DRAFT SPECIFICATIONS FOR ALL ITEMS OF WORK (INCLUDES, BUT IS NOT LIMITED TO: EARTHWORK, SURFACING QUANTITIES, BRIDGES, DRAINAGE ITEMS, RETAINING WALLS, GUARDRAIL, CURBS, REVEGETATION, ETC.).	
UPDATE SPECIFICATIONS FOR LIMITS ON CONSTRUCTION OPERATIONS, INCLUDING DATES AND PENALTIES	
ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS IDENTIFIED IN THE ENVIRONMENTAL DOCUMENT ARE INCORPORATED.	
All appropriate and most up-to-date SCRs from the Library of Specifications have been included	
All project specific SCRs are highlighted or redlined in copies distributed for FHWA review. Clean copies (no redline or highlight) provided for external distribution	
Recommendations from Geotech, Hydraulics, Bridge, Materials, Safety, and partner agencies incorporated.	
COMMENTS FROM 50% FIELD REVIEW INCORPORATED	
HAULING AND ACCESS RESTRICTIONS OR REQUIREMENTS SPELLED OUT. WEIGHT LIMITS HAVE BEEN VERIFIED WITH CLIENT.	
COORDINATION WITH UTILITY COMPANIES ACCOMPLISHED, WITH REQUIRED CONTRACTOR COORDINATION AND ADVANCE NOTICE SPELLED OUT	
SEASONAL OR PEAK TRAFFIC VOLUME TIMES, HOLIDAY, WEEKENDS, OR NIGHT RESTRICTIONS/REQUIREMENTS SPELLED OUT. NEED FOR COMPLIANCE PENALTY CONSIDERED.	
MATERIALS TO BE SALVAGED COORDINATED WITH CLIENT AND STOCKPILE LOCATION SPECIFIED.	
ALTERNATE PIPE CULVERT MATERIALS CONSIDERED.	
SEED TYPE, RATES, AND SEEDING SEASONS COORDINATED WITH CLIENT.	
HIGH INTENSITY SHEETING FOR SIGNS, BARRICADES, DRUMS, AND CONES SPECIFIED FOR ANTICIPATED NIGHT WORK.	

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FILLETS OR BACKFILL REQUIREMENTS AT PAVEMENT DROP-OFFS SPELLED OUT.	
STONE MASONRY TYPE, CLASS, SIZE, ROUGHNESS, ETC. COORDINATED WITH CLIENT.	
MATERIAL SPECIFICATIONS CITED FOR ALL UNIQUE MATERIAL NOT CONTAINED IN THE FP STANDARD SPECIFICATIONS.	
CONSTRUCTION STAKING NEEDS ARE CLEAR. MULTIPLE COURSES OF STAKING ARE ACCOUNTED FOR AND REFLECTED IN SPECIFICATIONS AND PAY QUANTITIES	
CONFLICTING STRIPING WITHIN CONSTRUCTION ZONE IS REMOVED AS NECESSARY	
CONDITION OF ROADWAY AT WINTER SHUT DOWN IS CLEAR. IF NEEDED ADDITIONAL STRIPPING IS INCLUDED IN QUANTITIES. TEMPORARY REMOVAL/INSTALLATION OF PERMANENT SIGNS ARE CLEAR FOR PAYMENT.	
PAYMENT FOR MAINTENANCE OF EROSION CONTROL DEVICES IS CLEAR.	
ALL RESTRICTIONS ON THE CONTRACTOR'S OPERATIONS ARE LISTED	
INTERIM COMPLETION DATES AND LIQUIDATED DAMAGES ARE SPELLED OUT	
METHOD OF MEASUREMENT FOR ALL PAY ITEMS IS COMPLETE AND CLEAR	
ACCEPTANCE OF CONTRACT WORK IS APPROPRIATE, COMPLETE, AND CLEAR	
PLANS CONTAIN THE FOLLOWING SHEETS	
Title sheet	
Conventional plan symbols and abbreviations	
SURVEY CONTROL POINT LISTING, INCLUDES SUPPLEMENTAL CONTROL POINTS.	
Site map	
Typical sections	
Miscellaneous typical section details	
Summary of Quantities sheets	
Tabulation of Quantities sheets	
Drainage Summary sheets	
Grading summary and mass haul diagram sheets	
Mainline plan and profile sheets	
Designed public intersection approach road plan and profile sheets	
BRIDGE PLANS	
Parking area plan and detail sheets	
CFLHD Soil Erosion control details (i.e. silt fence, sediment logs, etc.)	
Erosion control layout plan sheets	
Road connections details	
SUBEXCAVATION AND EMBANKMENT BENCHING DETAILS AND SPECIALS	
Placed riprap details	
CFLHD MSE Retaining wall special details	
Retaining wall layout sheets	
Box culvert plan and profile, layout, detail sheets or other large culverts needing headwalls or special details	
Concrete headwall details	

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Pipe culvert standard plans	
Drop inlet specials	
Underdrain details	
Spillway and pipe anchor special details	
Paved ditch details	
Guardrail standard drawings	
Masonry specials	
Fence and gate details	
Cattleguard details	
Widening for cattleguard and gate	
Revegetation / Landscaping plans and details	
Signing and striping plans and specials	
Permanent Traffic control plans and details	
CFLHD Temporary Traffic control details, drawings, and project-specific drawings	
Cross-sections plan set cover sheet, if necessary	
Mainline cross sections	
Approach road cross sections	
Culvert pipe cross sections	
ESTIMATE	
ESTIMATE INCLUDES ALL PAY ITEMS	
Contingency is included in bid item roundups, per Project Development and Design Manual (PDDM).	
UNIT PRICE ANALYSIS COMPLETED AND SUBMITTED	
REVIEW OF UNIT PRICES	
ESTIMATES ARE DEVELOPED FOR EACH BID SCHEDULE	
BID ITEMS ARE BROKEN DOWN TO REFLECT DIFFERENT FUNDING SOURCES	
Distinguish material quality and smoothness incentives (use FP and SCRs for computation of incentives, Engineer's Estimate does not compute them correctly)	
Distinguish contract quantity bid items	
DBE/WBE incentive not included in estimate	
70% COST ESTIMATE SUBMITTED IN FHWA FORMAT	
FHWA's Engineer's Estimate program used	
Verify that the estimate is within the programmed amount	
PERMITS	
Draft permit applications, drawings, forms, and data finalized	
ALL PERMITS/AUTHORIZATIONS SUBSTANTIALLY COMPLETE	
OBTAIN ALL NECESSARY DESIGN INFORMATION & EXHIBITS	
REVIEW FILE DOCUMENTATION	
CONTACT PERMITTING AGENCIES AS NECESSARY	

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PREPARE PERMIT APPLICATION(S)	
CONDUCT REVIEWS WITH CFLHD	
HIGHWAY DESIGN STANDARDS FORM (HDS)	
FINALIZED HDS USING FINAL SAFETY DESIGN, INCLUDING ALL DESIGN EXCEPTION AREAS, JUSTIFICATION FOR THE EXCEPTIONS, AND MITIGATIONS USED. INCLUDE LIST OF VARIANCES FOR CLEAR ZONE REQUIREMENTS. FORM IS READY FOR SIGNATURE.	
DELIVERABLES	
70% PLANS	
70% SPECIFICATIONS	
70% COST ESTIMATE	
Revised unit price analysis for all bid items	
Earthwork Report (Geopak generated report)	
FINAL HYDRAULICS REPORT	
FINAL GEOTECHNICAL REPORT	
FINAL PAVEMENTS REPORT (SUBMITTED AFTER REVIEW OF THE 70% SUBMITTAL)	
FINAL HIGHWAY DESIGN STANDARDS FORM	
Final Permit application forms and drawing	
Updated construction schedule (CPM)	
Updated Design Technical Memorandum	
STRUCTURAL PRELIMINARY STUDY	
RIGHT-OF-WAY PLANS	
Right-of-Way QA/QC checklist	
QA/QC Certification of Compliance	
50% COMMENT AND RESPONSE TRACKING FORM	
COPY OF THE QUANTITY CALCULATIONS ALONG WITH SUPPORTING DOCUMENTATION	
Electronic files with horizontal and vertical alignments, cut/fill limits, culverts, right-of-way, curve data, existing ground profile on centerline, and cross-sections	
FIELD REVIEW	
SC70 activity - Alignment Staking For 70% Field Review	
Alignment staked on 100 foot (40 meter) stations for tangents and 50 foot (20 meters) for curves. As a minimum stake the beginning, end, and center point on short curves. Limits of staked alignment are as needed.	
Topography is checked by visual observation, hand level, and cloth tape by designer at critical locations to confirm aerial topography	
Prepare agenda for field review	
Prepare a list of discussion topics for the field review	
Review the design at all proposed natural drainages and ditch relief culvert locations	
Review all impacts to the final footprint	

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Review intersections, mailbox areas, wall areas, etc.	
Produce a master relined plan set with field review comments for inclusion in the 95% design	
Prepare trip report	
MAJOR POST 70% ACTIVITIES *Activities to be conducted between the 70 and 95 percent reviews.*	
FINAL HIGHWAY DESIGN STANDARDS FORM TRANSMITTED FOR SIGNATURE APPROVAL. *(THIS FORM CAN ALSO BE SIGNED BY THE CLIENT AT THE 70% FIELD REVIEW MEETING)*	